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28. Восемь фотографий у американского флага, или Нападение людей-грибов.

11-14 minutes

One day, seven people from Tokyo went on a yacht trip, away from urban problems.

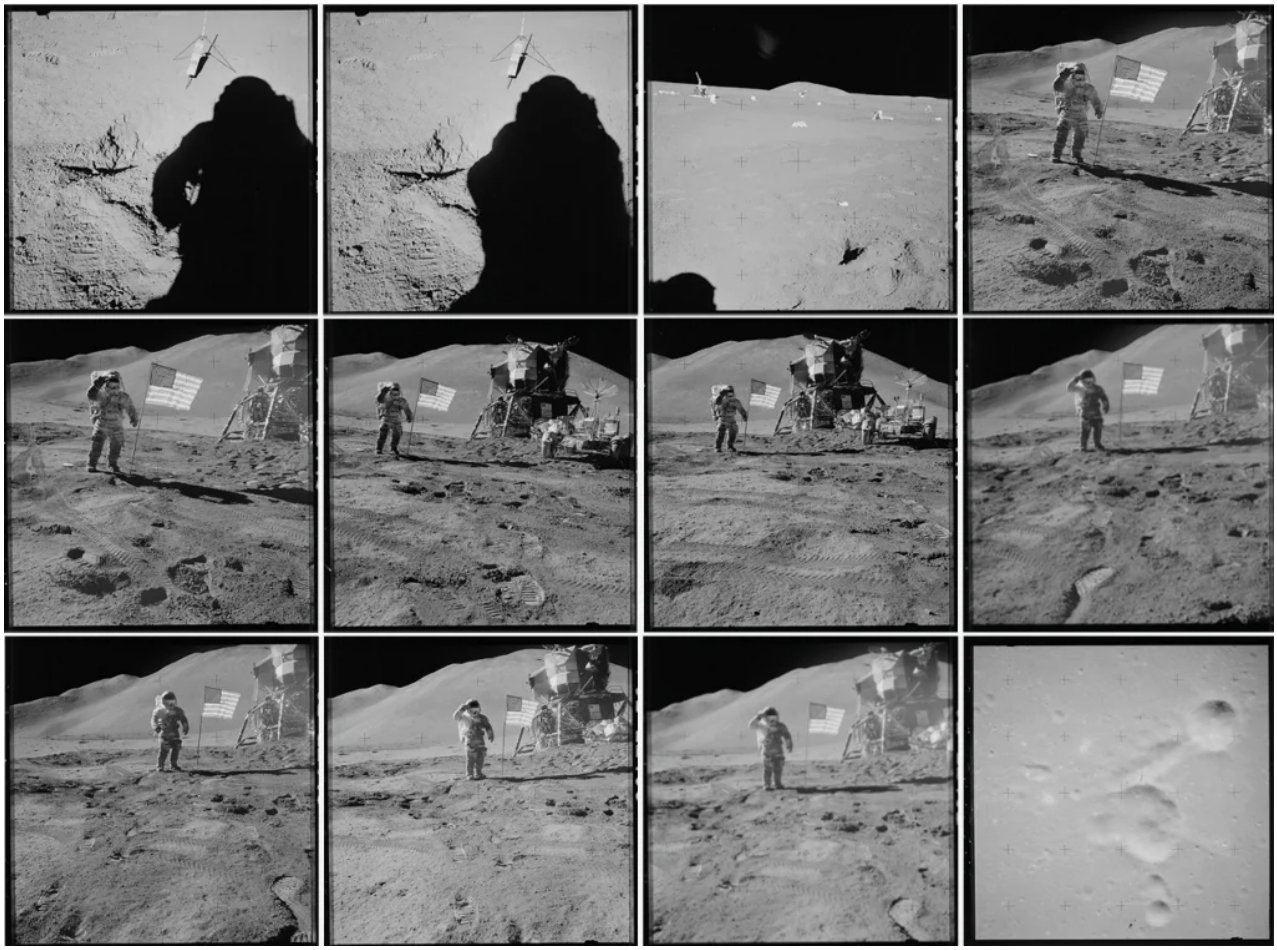
The yacht goes to sea.

But the weather suddenly turned bad, and a storm began. After the storm, it turned out that the masts were broken, the engine did not work, the radio was silent. The drifting yacht reaches a seemingly uninhabited island. Travelers find a moored ship with rotten sails and meadows overgrown with mushrooms. And those who tasted mushrooms turned into mutant mushrooms. And these mutant mushrooms attacked the travelers.

The professor is firing off mutant mushrooms.

This is a 1963 Japanese film, Attack of the Mushroom People. (Matango, another name for the film, is a kind of mushroom).

And the eight photographs at the American flag are a series of similar photographs (almost identical) in the Apollo 15 mission, where an astronaut stands at the flag, allegedly against the background of a lunar mountain. Eight American flag pictures are numbered 12444 to 12451 (as15-92-12444 to as15-92-12451).



12 consecutive images from the Apollo 15 mission, among which eight are images with a mountain in the background.

We already know that the role of astronauts in the "lunar" photographs was played by lightweight mannequins. In their reports, NASA calls these dummies by names, something like Jim and Dave.

What is it that unites the pictures of the astronaut at the American flag with the Japanese film Attack of the Mushroom People? I will not hide a secret. In both cases, the same method of combined shooting was used - front projection onto a reflective screen. Moreover, in a Japanese film this was done for the first time in the world (1963), and only then, 4 years later (since 1967), Stanley Kubrick began to use front projection in "A Space Odyssey" (the film premiered in 1968).

You already know that during front projection, the image from a movie projector (or from a slide projector) is directed to the screen from the same side where the shooting camera is located, and the game scene is exposed in front of the screen. In the Japanese film, the scene on a sailboat at sea is shot in this way. The yacht stands in the pavilion in front of a large cinema screen, and the waves of the sea, filmed in advance, are projected onto this screen.

Yacht at sea. Combined shot. The most general plan.

In general terms, you can calculate that the size of the background screen was about 7 meters wide. You already knowfrom the previous articles that during front projection there is a rigid binding of the position of the camera and the projector to the plane of the screen. The distance to the screen is set once, and this distance does not change anymore.

If the cameraman was shooting, as usual, coming closer to the actor to get a close-up, then in this case the landscape in the background would become larger. But since it is, as it were, in the distance, it cannot change its size due to the fact that the cameraman took two or three steps forward. When it is necessary to change the close-up of the shot, the camera does not budge, but the scenery with the actors moves closer or further to the shooting camera. For this, the decoration is installed on a platform moving on wheels.

Here we see in the film, in addition to the general plan, medium and close-ups on the yacht.

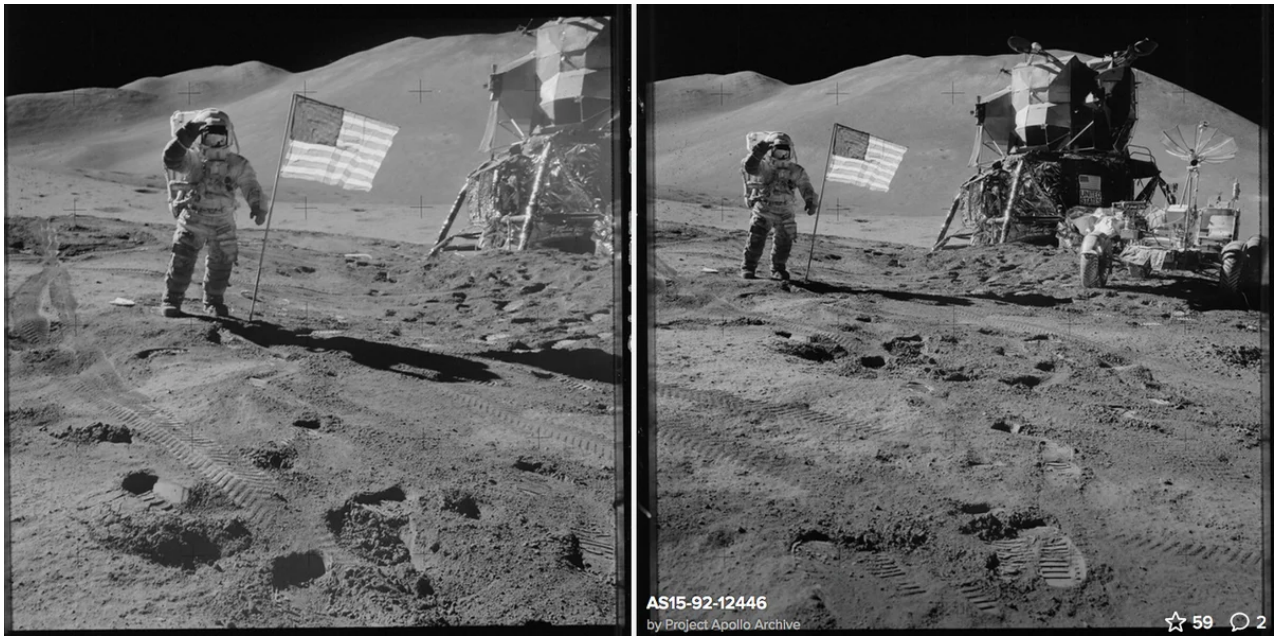
Medium shot on the yacht.

Close-up on the yacht.

To get close-ups, the yacht was moved very close to the camera, while the background remained in the same place.

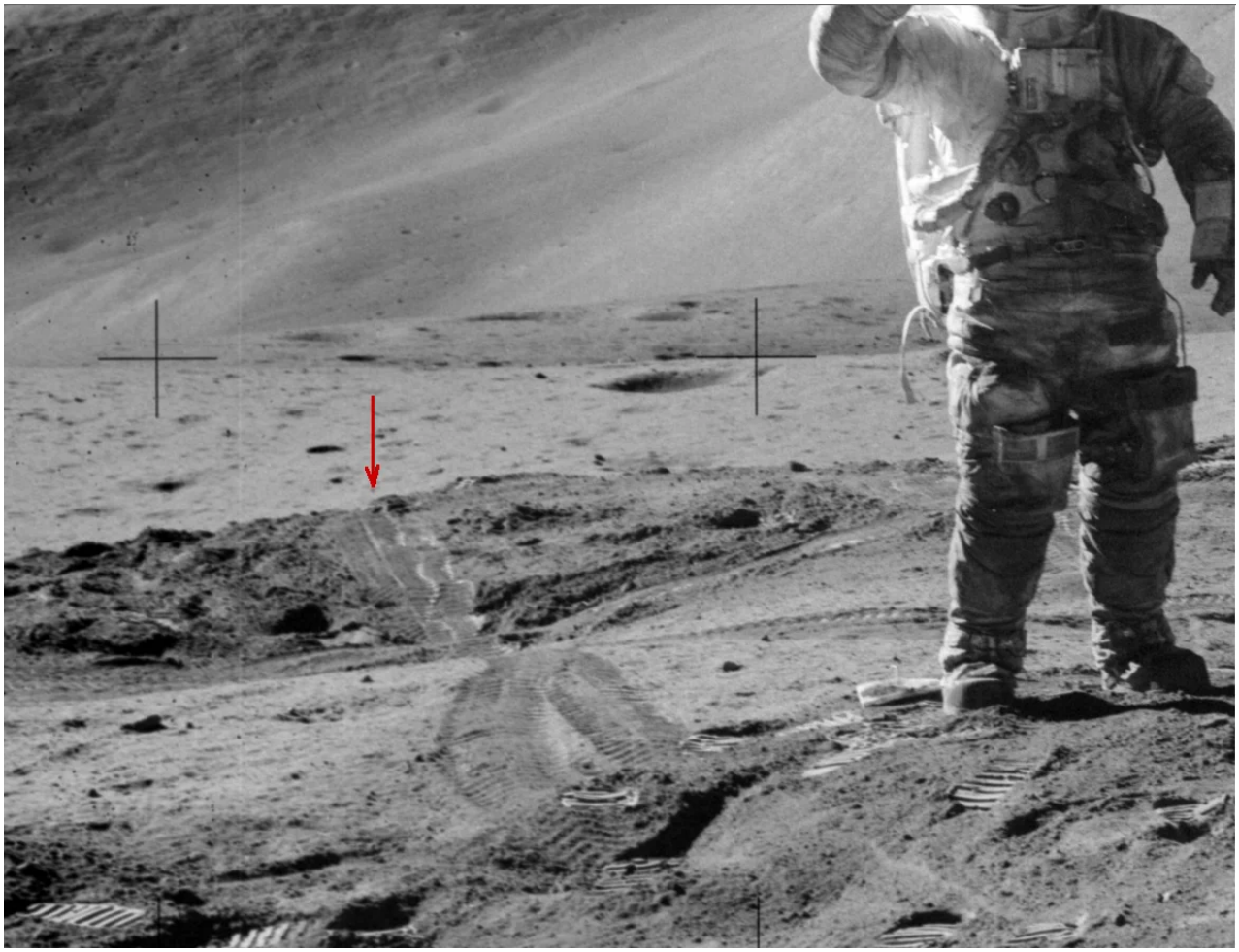
If we now take a closer look at the Apollo 15 footage, we will see the same technology for obtaining shots differing in size. For this, a mannequin mounted on a platform is brought closer or removed from the camera. And the mountain projected onto the movie screen remains in the same place, as if it is very far from it, and therefore its size does not change in the pictures. According to NASA legend, the mountain is several kilometers away, but according to our calculations - 26..27 meters.

I am told that the size of the astronaut in the image 12446 in relation to the image 12445 changed from the fact that the photographer moved further away.



Images 12445 and 12446 from the Apollo 15 mission are distinguished by the size of the "astronaut".

And I see something else - that the platform with the stationary dummy was pushed back, and the camera stood in the same place. It is quite easy to find the far edge of the platform - the ground on the platform is of a different tonality, moreover, it breaks off abruptly.



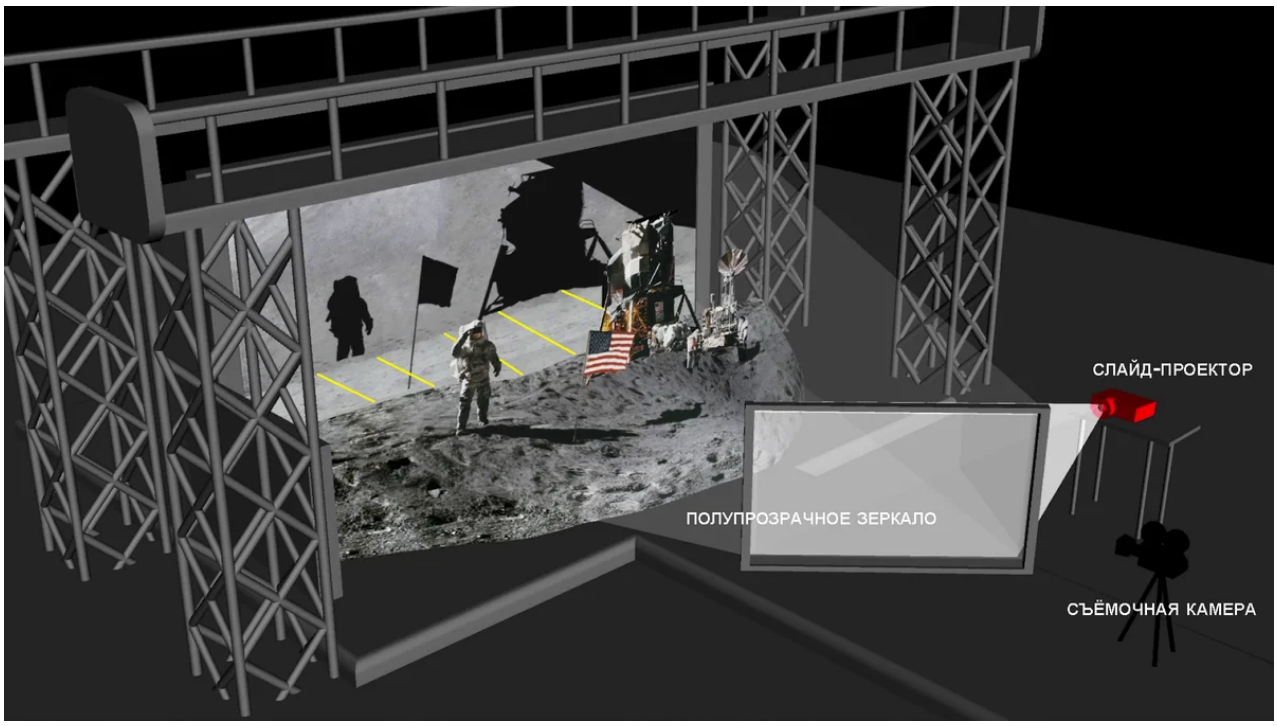
The rover track is cut short at the end of the platform.

If you move the platform left and right relative to the mountain on the movie screen, then the edge of the track going into the distance will noticeably move relative to the mountain, because it is only 27 meters away. And an attentive viewer will immediately notice the catch. Indeed, in life (see color photo below) it cannot be such that the far end of the road moves relative to the mountain due to the fact that the observer has shifted 2-3 meters to the left or right, when, for example, he crossed from one side of the road to the other ...

The road leading to the mountains. If you go from the left side of the road to the right, then the far end of the road will remain in the same place relative to the mountain.

But in the pavilion just such an undesirable effect will occur: medium-distant objects will shift relative to the picture of the mountain in the background. To prevent viewers from noticing the deception, the movement is made insignificant, and in addition, a buffer zone is placed in the pavilion between the movable platform and the vertical screen.

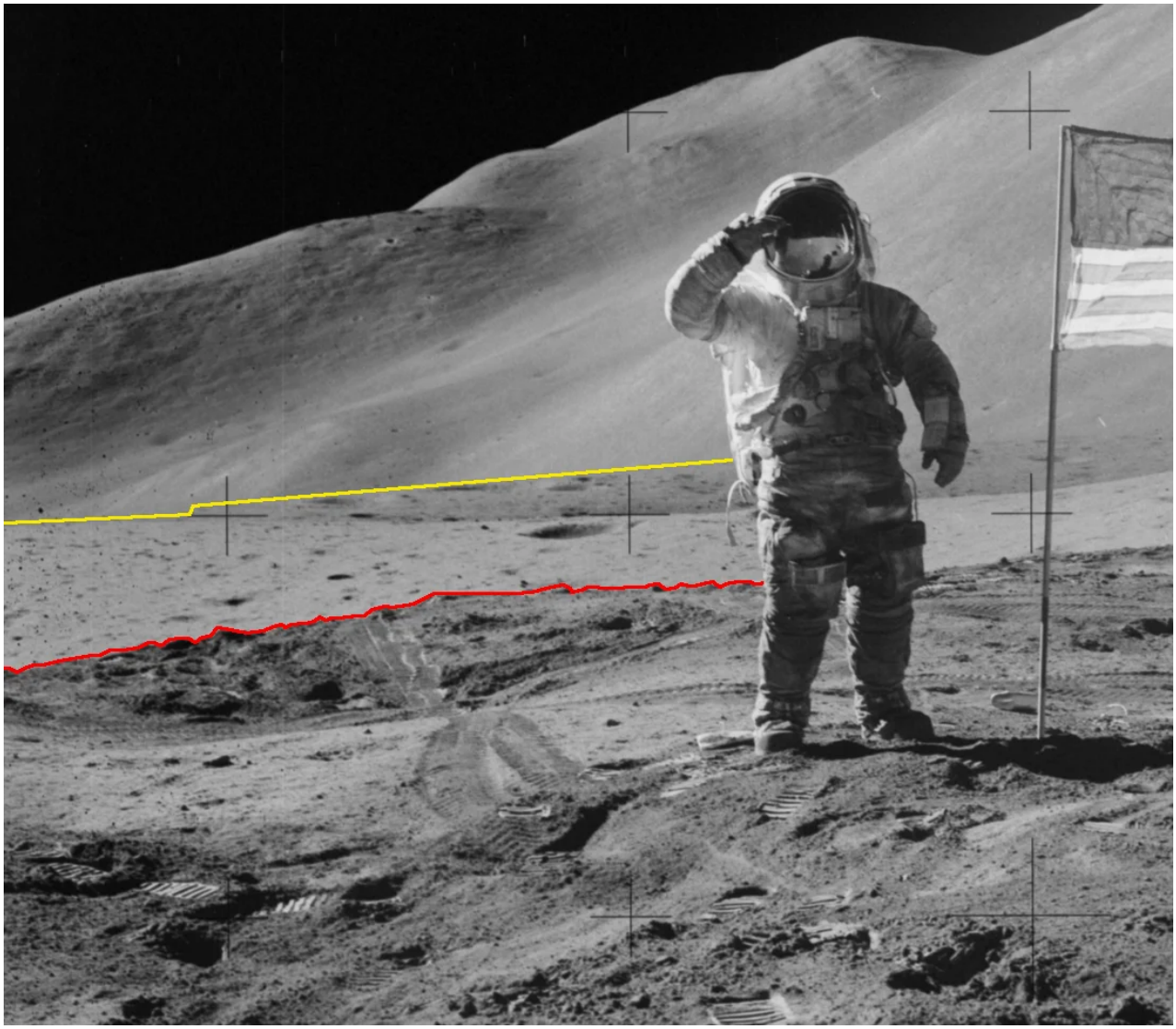
Pay attention to the scheme for obtaining the "lunar" frame. The yellow shading indicates the buffer zone.



Scheme of obtaining a "lunar" frame by the front projection method. The shaded area denotes the buffer zone.

Now, when the platform is shifted to the right-left or back-forward, the far track no longer shifts relative to the mountain, but relative to the buffer zone, which simulates a mid-distant landscape.

Thus, the "lunar" landscape in the photograph consists of three parts. The boundaries are clearly visible between these parts. The near part - dark soil in the foreground - is a mobile platform with filled soil. The far part is the vertical screen - the moon mountain in the background. But the third part is located between them - this is a strip of light tonality. With the red line we marked the far edge of the platform with the filled soil, and the yellow line (it is smoother) - the border between the screen and the buffer zone.

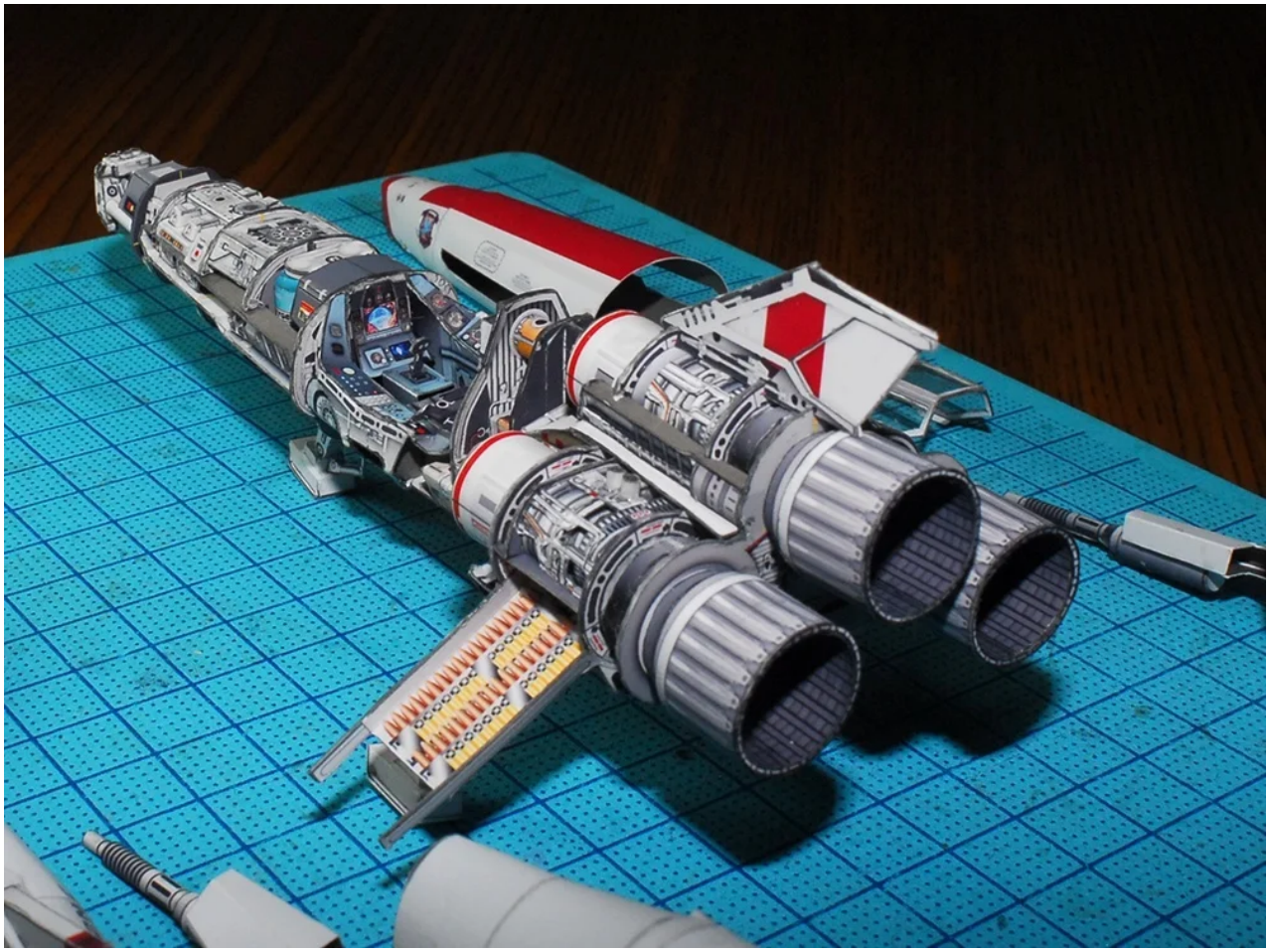


The boundaries between parts of the image are clearly visible (underlined with colored lines).

If you take a fragment of a snapshot and enlarge it, then these boundaries are easy to read.

The boundaries between the zones are well readable. The border at the movie screen is even, at the platform - with bends.

To create the feeling that the track is going somewhere far away, NASA used a technique well known in filmmaking as "perspective enhancement." This technique is especially noticeable on starships in space films. So that the model of the spaceship does not look like a small toy, but creates the feeling of an object extended in space, the part of the spaceship that goes into the distance is made on a smaller scale.



Enhancing perspective.

To make the layout of the city in combined shots create a feeling close to the real perspective (see photo below), distant houses were made smaller in scale.

Фото 16. Рабочий момент съемки макета города

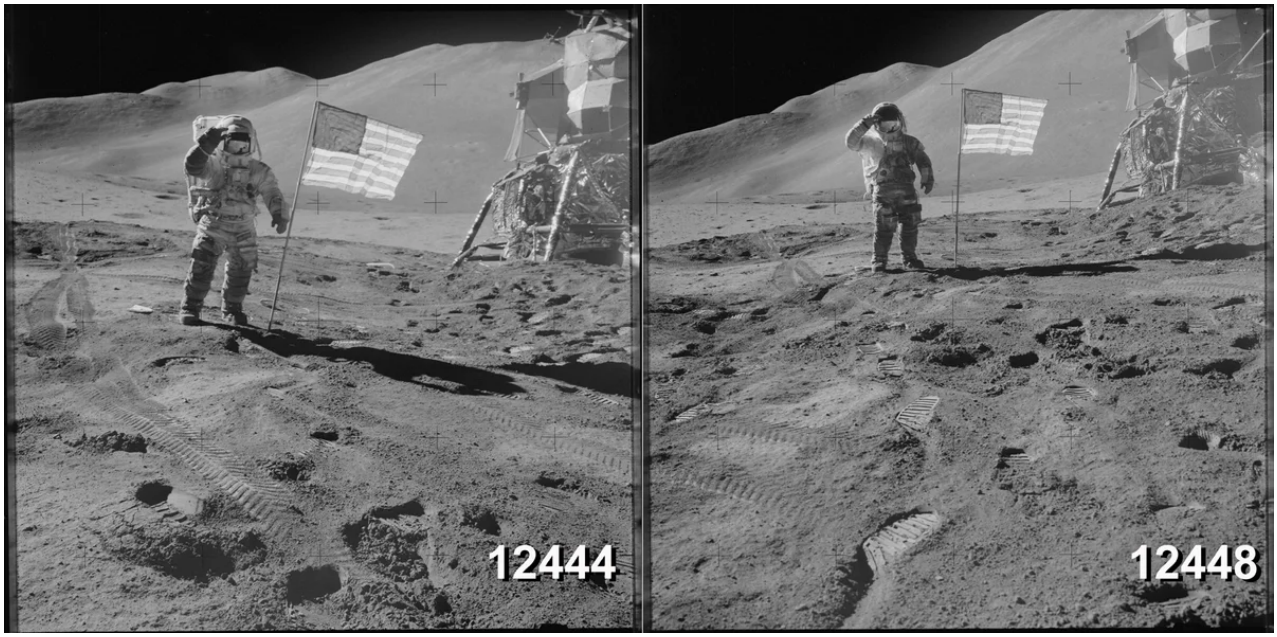
Remote homes are being made on a smaller scale.

This is the same "pedaling" of perspective we see in the images of Apollo 15. The track stretching into the distance, deliberately narrows in size, as if it goes very far.

The track in the distance decreases in width, as if due to perspective.

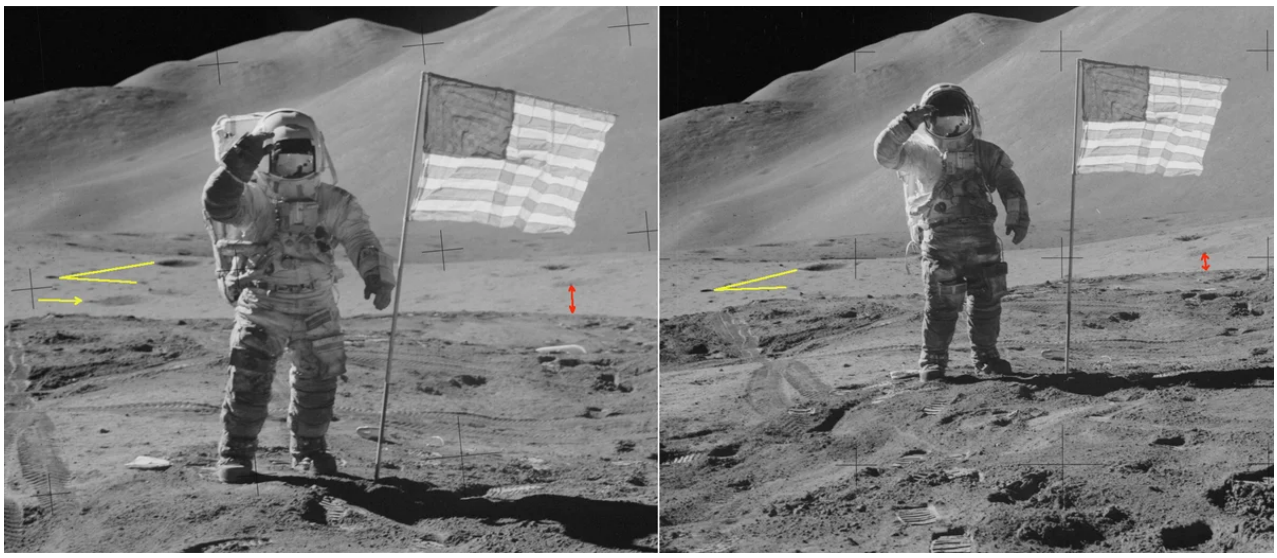
In fact, the end of the track is about 20 meters, and the width of the buffer zone is within 5-7 meters. When the platform is moved back from the filming camera, in order to obtain, as it were, a general plan, this platform overlaps a part of the buffer zone.

Here are two photographs from the same series, which are numbered 1244 and 1248. Their convenience for comparison is that the mannequin is shown here in different sizes, but the background is the same. The mountain in the background is the same in scale in the two images, and the astronaut's size has changed, allegedly due to the fact that the photographer was shooting from another, more distant from the flag, shooting point.



The astronaut's size has changed, allegedly due to the fact that the photographer has moved further away.

In fact, it was not the photographer who moved away, but the platform drove off, and it blocked part of the buffer zone. So that you can notice the decrease in the width of this buffer zone, we have leveled the horizon in image 12444. And now it is easy to find the elements that turned out to be blocked by the platform when it was moved.



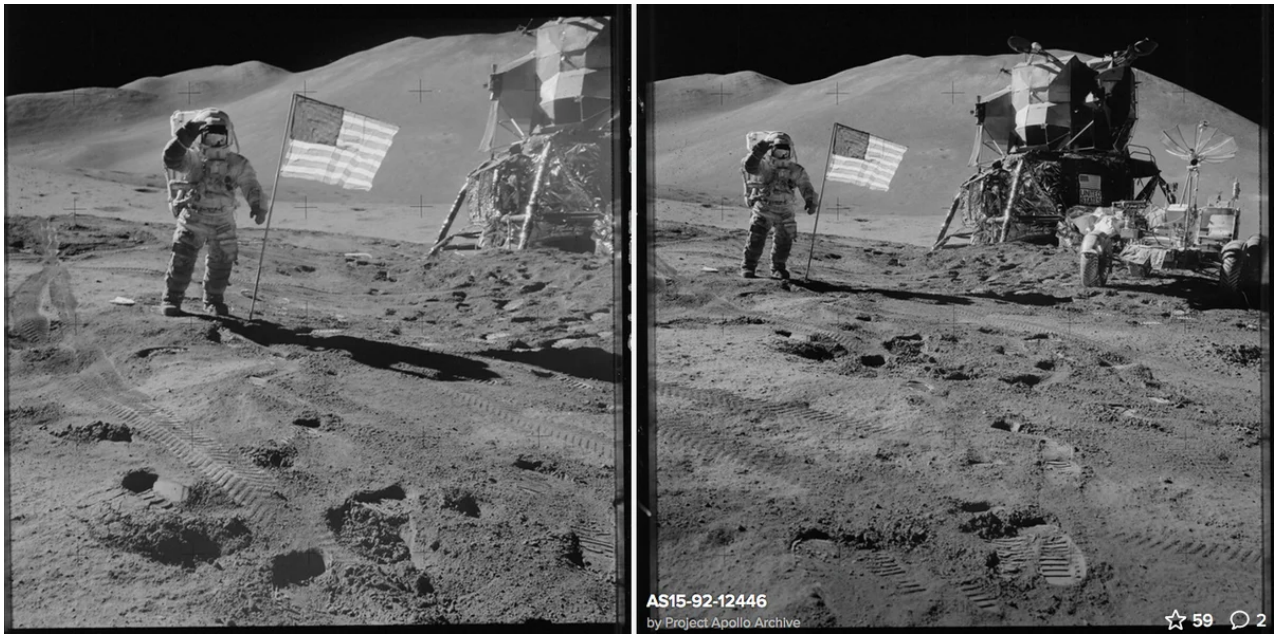
The hole, indicated in the left image with a yellow arrow, has overlapped; the distance from the edge of the platform to the depression has decreased (red arrow).

The yellow arrow shows the element that has disappeared - the darkened depression (it is on the left image, but not on the right one). The red arrow shows the change in distance to another depression in the ground.

So that you can feel that the change in size occurs due to the movement of all foreground objects, we created a GIF, comparing two frames.

The GIF shows the difference between frames 12444 and 12448.

Now you can easily notice the change in the width of the buffer zone when comparing images 12445 and 12446. We started our conversation with these images.



Snapshot 12445 and 12446. Behind the dark ground, a decrease in the width of the buffer zone is visible.

So, examining eight consecutive images of an astronaut against the background of a lunar mountain, we clearly see that they were obtained by the front projection method in the pavilion. And although according to NASA legend, two different astronauts appear here, all the frames are practically the same. Changes in size are possible only within small limits by moving the platform with the astronaut a little closer to the stationary camera or further from it.

The width of the reflective screen in the background is about 33 meters, and the frame includes about 24 meters in width. In this regard, it becomes possible during shooting to slightly pan to the left or to the right (to show another part of the mountain), about 1/3 of the frame width. All these restrictions are imposed by the front projection method.

Snapshot 12447 (left) and 12448 (right). The maximum panning relative to the mountain in the background is about 1/3 of the frame width.

Moving a platform (the size of a volleyball court) takes time. Choosing a composition for the next shot and applying additional footprints in the sand, as if from the second astronaut, also takes a lot of time. In this connection, the shooting of one frame is delayed for more than an hour. In addition, according to NASA legend, the astronauts switched places during the shooting. In other words, one mannequin, which is thicker, was replaced by another mannequin, which is thinner.

Snapshot 12444 and 12448. These are like two different astronauts, one fat, the other thin.

And so that you can guess that these are not the same astronaut, but two different ones, they were soiled in different ways. One got blackened on his right hand, and on the other his left hand and almost the entire front part of the suit, as if he was crawling on his bellies in a coal mine.

In our opinion, the shooting of eight consecutive frames for the Apollo 15 mission (excluding preliminary preparation) took at least 8 hours. Of course, no living person can stand still for so long - mannequins were used instead of astronauts.

*

Cameraman L. Konovalov was with you

Until next time, friends!

PS Oh, I feel that I will reveal to you all the professional secrets of how cinema is made, and you will not be interested in watching films at all.